

Application No. 10/076,976

REMARKS

Claims 18-30 are pending. All of the pending claims stand rejected. Applicants respectfully request reconsideration of the rejections based on the following remarks.

Rejection For Lack of Enablement

The Examiner rejected claims 18-30 under 35 U.S.C. § 112, first paragraph for lack of enablement. With all due respect, Applicants believe that there has been a misunderstanding of the implications of the claim language. Particles in powders will agglomerate, and the only issue is whether the agglomerates are weak agglomerates or strong agglomerates, i.e., fused particles. Applicants maintain that the Examiner has failed to raise a prima facie case of lack of enablement. Applicants respectfully request reconsideration of the rejection based on the following comments.

Any fine or ultrafine powders agglomerate. However, weakly agglomerated particles may be referred to as unagglomerated in context to distinguish the particles from hard agglomerated particles that cannot be separated by dispersion in a liquid. The Examiner stated that Applicants' specification only described Van der Waals and other electromagnetic forces and not other physical/mechanical/chemical forces. With all due respect, in nature there are only, gravitational forces, electromagnetic forces and nuclear forces, such as the strong and weak forces. Gravitational force and nuclear forces are not relevant for the particles. So all relevant forces are electromagnetic, which covers all appropriate physical/mechanical/ chemical forces. Physical/mechanical/chemical forces are just collective electromagnetic forces.

The Examiner seems to be arguing that the specification is not enabling since the particles may not be agglomerated at all. Well, that would be very weak agglomerates, but the reality is that small particles have so much surface area that they will agglomerate to some extent unavoidably. There is some uncertainty from the office action whether or not the Examiner is

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actually asserting a Written Description rejection. Applicants' respectfully request clarification on this issue. Nevertheless, the Examiner has clearly failed to establish a *prima facie* case for either a lack of written description or a lack of enablement. Applicants respectfully request the withdrawal of the rejection of claims 18-30 under 35 U.S.C. § 112, first paragraph for lack of enablement.

Rejection Over Wiederhöft

The Examiner rejected claims 1-30 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,840,111 to Wiederhöft et al. (the Wiederhöft patent). Applicants incorporate by reference the details of the rejection from the Final Office Action of December 3, 2003 as well as Applicants' arguments from the Amendment After Final of March 12, 2004. Below, Applicants focus on the Examiner's response to Applicants' arguments in the Office Action of July 29, 2004. Applicants maintain that the Examiner has not established *prima facie* anticipation of the present claims. Applicants respectfully request reconsideration of the rejection based on the following comments.

"In order to constitute anticipatory prior art, a reference must identically disclose the claimed compound..." MPEP 2122 citing *In re Schoenwald*, 22 USPQ2d 1671, (Fed. Cir. 1992). "For a prior art reference to anticipate in terms of 35 U.S.C. § 102, every element of the claimed invention must be identically shown in a single reference. These elements must be arranged as in the claim under review, but this is not an 'ipsissimis verbis' test." *In re Bond*, 15 USPQ2d 1566, 1567 (Fed. Cir, 1990)(Internal citations omitted and emphasis added.).

"If the prior art reference does not expressly set forth a particular element of the claim, that reference still may anticipate if that element is 'inherent' in its disclosure. To establish inherency, the intrinsic evidence 'must make it clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or

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possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." In re Robertson, 49 USPQ2d 1949, 1950, 1951 (Fed. Cir. 1999), citing Continental Can Co. v. Monsanto Co., 20 USPQ2d 1746, 1749 (Fed. Cir. 1991).

"Every element of the claimed invention must be literally present, arranged as in the claim. The identical invention must be shown in as complete detail as is contained in the patent claim." Richardson v. U.S. Suzuki Motor Corp., 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)(Internal citations omitted, and emphasis added.); see also MPEP 2131. "Here, as well, anticipation is not shown by a prior art disclosure which is only 'substantially the same' as the claimed invention." Jamesbury Corp. v. Litton Industrial Products, Inc., 225 USPQ 253, 256 (Fed. Cir. 1985)(emphasis added).

The Examiner's arguments are organized into three specific elements labeled 2-4 on pages 3 and 4 of the present office action. With respect to points 2 and 3, Applicants' will assume for arguments sake that in the process of the Wiederhöft patent the synthesis of different forms of the titanium oxide crystal structure was known in the sol-gel art. Therefore, we would like to focus on point four relating to the weak agglomeration issue.

As noted above with respect to the enablement issue, there seems to be some confusion on the implication of weak agglomeration. The issue is whether the particles are weakly agglomerated or hard agglomerates and NOT whether the particles are weakly agglomerated or not agglomerated. For fine particles and ultrafine particles, the particles in a powder will necessarily be at least weakly agglomerate. The Examiner is correct in asserting that the particles formed in the Wiederhöft process will have forces between the particles that will cause them to agglomerate. However, the Wiederhöft particles will strongly agglomerate. With respect to fine and ultrafine particles, weak agglomeration and no agglomeration may be used interchangeably, although weak agglomeration is technically correct.

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As noted in Applicants' arguments in the response of March 12, 2004, the product of drying the sols are agglomerated masses. As described in the Wiederhöft patent in the Example at column 7, lines 5-9, a xerogel is obtained following drying of the sol. Since a xerogel is a solid agglomeration, the particles formed as described in the Wiederhöft patent are strongly agglomerated particles. Also, Applicants have presented evidence with respect to EP 444,798A, which still has not been refuted by the Examiner. To summarize the arguments, European Patent Application 444,798, which is referenced in the Wiederhöft patent, discloses that compounds made by the sulphate process have to be ground after drying to yield particles. See EP 444,798 at page 5, lines 10-12. The nanocrystalline structures observed in the Wiederhöft patent are hard agglomerates that can be identified within the mass. The grinding process results in larger weakly agglomerated particles that have the nanocrystalline particles embedded (i.e., strongly agglomerated) within the larger weakly agglomerated particles. Thus, the nanoparticles described in the Wiederhöft patent are within hard agglomerates that are fused together to form significantly larger particles.

Applicants maintain that the Wiederhöft patent does not disclose rutile titanium oxides particles with an average particle size less than 150 nm because the Wiederhöft patent generally only discloses aqueous sols, and the products that result from drying the sols are agglomerated masses. The grinding of the agglomerated masses results in relatively large particles with hard fused nanocrystalline grains embedded in the particles. Since the nanocrystalline grains are in hard agglomerates, the Wiederhöft patent does not prima facie anticipate Applicants' claimed invention. Applicants respectfully request withdrawal of the rejection of claims 1-30 under 35 U.S.C. § 102(b) as being anticipated by the Wiederhöft patent.

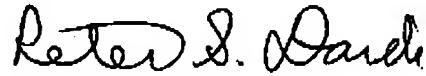
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## CONCLUSIONS

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution. Specifically, Applicants request that the Examiner call the undersigned if any of the analysis above is unclear.

Respectfully submitted,



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